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HOW RESILIENT ARE ASIAN ECONOMIES TO A REVERSAL OF CAPITAL FLOWS?

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Abstract

Growing uncertainties in the global economy and financial markets have increased the risks of a reversal of capital flows to Asia. This note aims to provide some clues to how far Asian economies would be affected should there be a deterioration in credit conditions on a global scale, causing a reversal of capital flows to the region. Our findings suggest that while the improvements in external payment positions and financial strength have increased the resilience of the region to possible external shocks, the recent rally in the equity market warrants increasing attention, although there are no clear signs of an overvaluation in the debt and housing markets.

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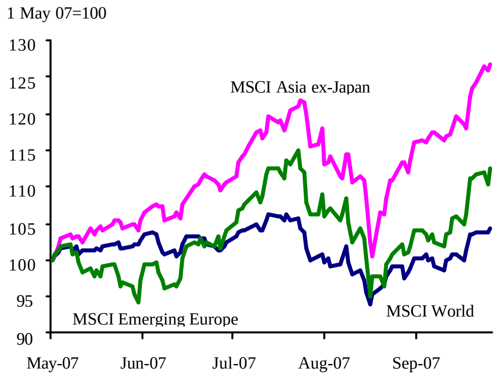
I. Risks of a reversal of capital flows have increased

Chart 1: Global stock market indices



Sources: MSCI and Bloomberg.

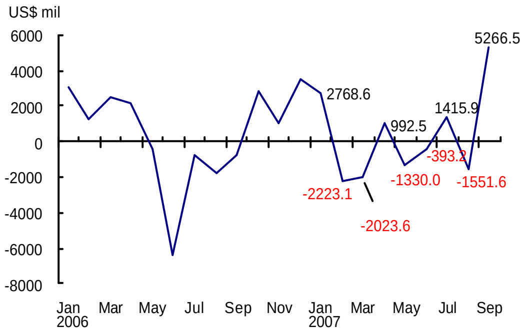
Since June 2007, the global financial markets have become increasingly volatile. In particular, contagion from the US subprime mortgage woes has triggered unusual volatility in the global financial markets in August and September. Increased risk aversion has led to a sharp pullback from risky assets and deleveraging, causing a widening of credit spreads in riskier asset classes, more volatile bond and equity markets, and a loss of liquidity in the market with short-term funding, especially in the inter-bank and commercial paper market. Equity prices fell across the broad in the global financial markets in mid-August, as investors expected losses in the asset-back securities market would hurt earnings of financial institutions and higher funding costs would weigh on business activities and house prices (Chart 1).

Meanwhile, the recent stock market volatility has also reflected uncertainty about the global growth prospect. A continued housing slump and a tightening in credit have raised concerns about the US economic outlook. In the aftermath of the credit market crisis, it will take time for the housing market in the US to clear its imbalances and for the household sector to repair its balance sheets. Downside risks to the global outlook have clearly increased.

Such growing uncertainties in the global economy and financial markets have increased the risks of a reversal of capital flows to Asia. While the region would not be insulated from a shake-off in the US markets, would the region fare better compared with previous episodes of market turbulence in the late 1990s? This note attempts to provide an answer to this question by analysing the resilience of the region to possible external shocks. We start by briefly discussing in the next section the effects of recent financial market developments on Asia so far. The resilience of the region is then examined in terms of recent capital flow patterns, asset market valuation and balance sheet strength of various economic sectors.

II. Effects of recent developments on Asia so far

Chart 2: Net foreign equity investment in Asia[1]



1. Include China, Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Taiwan, Thailand and Singapore
Source: Emerging Portfolio Fund Research

Although equity prices in some Asian economies fell more sharply than the US and European markets in the first half of August, major stock indices in the region rebounded strongly and recovered most of the losses by the end of the same month. The strong portfolio investment inflows experienced by the Asian economies in September appear to suggest some portfolio rebalancing by global investors (Chart 2). Unlike the previous episodes of financial market turbulence, activities in the regional money market remained relatively stable in the face of large fluctuations in the stock market, and there have been few anomalous movements in interest rates and exchange rates in the money market.

The resilience of the Asian markets to the subprime mortgage crisis in the US in part reflected the limited exposures of financial institutions in the region to asset-back securities and CDOs linked to the pool of subprime mortgages in the US. Overall, banks in Asia have not engaged in high-risk mortgage lending business despite the property market boom in some economies. Domestic investors in the private sector also seemed less leveraged than in mature markets, and central banks have been relatively conservative in investing reserves. In general, there appears little sign and risk of financial institutions in the region facing a liquidity squeeze similar to those in the US and Europe. As a result, the fallout in the US subprime mortgage market has limited direct impact on the balance sheet of financial institutions in Asia.

In fact, credit exposures in the region to the developed economies have been reduced. Compared with the positions before the Asian financial crisis in 1997-98, Asian credit exposures (in terms of loans) to the US and other OECD countries have declined in recent years except for the NIEs, partly reflecting increased international banking business in financial centres such as Hong Kong and Singapore (Chart 3).[1&2] The ratio of external borrowing to money stock in Asia has been falling in most regional economies as financial institutions become more prudent in their asset and liability management (Chart 4). Sizable private savings in Asia have also provided ample liquidity for banks to finance credit expansion in the domestic markets. Therefore, even if the credit conditions tighten in the US and Europe, Asian banks face little strain on their sources of funding.

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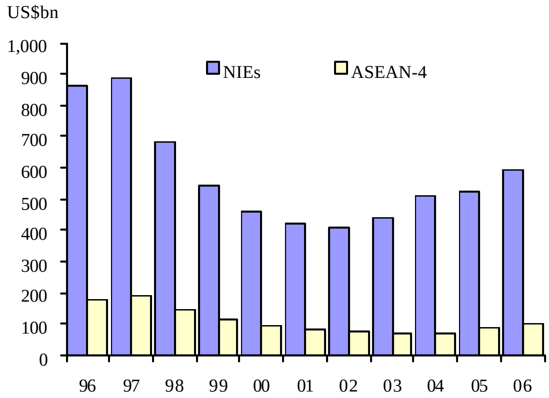
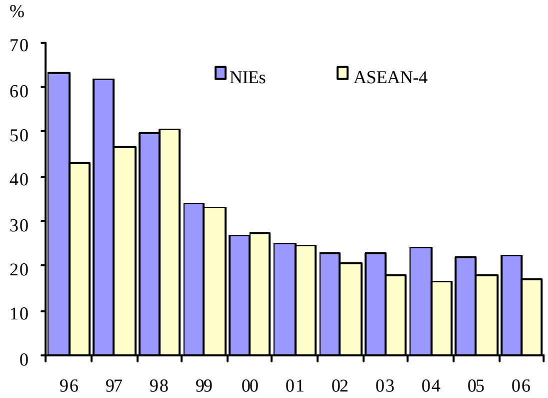
[1] In this paper, NIEs include Hong Kong, Korea, Singapore and Taiwan unless otherwise specified.
[2] In this paper, ASEAN economies refer to Indonesia, Malaysia, the Philippines and Thailand (ASEAN-4), unless otherwise specified.

Chart 3: Asia's external loan liabilities



Sources: BIS and staff estimates.

Chart 4: Ratio of external loan liabilities to money stock in Asian banks



Sources: BIS, CEIC and staff estimates.

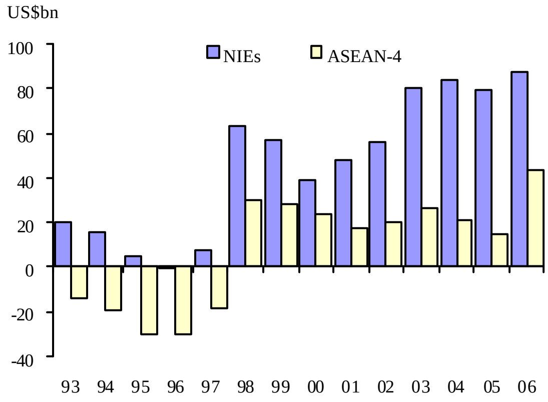
III. Has Asia become more resilient?

The benign money market reactions and the strong rebound in equity prices in Asia have raised the question: has Asia become more resilient to external shocks and why? An analysis of the external payment position, capital flows pattern, asset market valuation and financial strength of different sectors may provide some clues as to how far Asian economies would be affected should there be a deterioration in credit conditions on a global scale, causing a reversal of capital flows to the region.

a. Strengthening current account positions

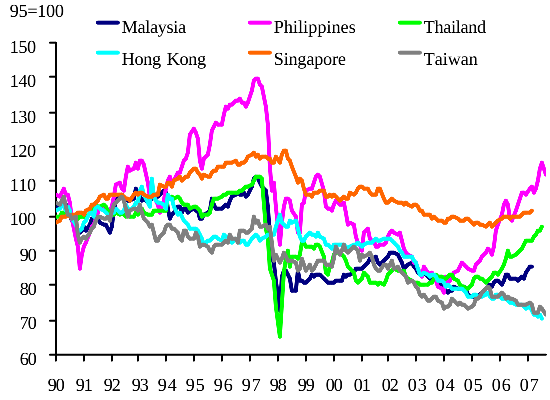
During the past decade, external payment positions have strengthened significantly in Asia mainly reflecting an increased surplus in current account transactions. Comparing with the position prior to the Asian financial crisis, the current account surplus in the NIE economies increased more than tenfold between 1997 and 2006, while that in the ASEAN economies has turned from negative to positive during the same period (Chart 5). The stark improvement in the current account balance can be attributed to a number of factors. First, real depreciation of Asian currencies had boosted regional exports in the aftermath of the Asian financial crisis, offsetting the subdued growth in domestic demand (Chart 6). Secondly, sluggish household spending and business investment had reduced import demand in the region. Finally, governments' efforts to restrain public expenditure improved the fiscal balance in most Asian economies, which helped narrow the current account deficit. Improvement in the external payment position has also resulted in a steady accumulation of official foreign reserves in Asia over the past years.

Chart 5: Current account balance in NIEs and ASEAN economies



Sources: CEIC and staff estimates.

Chart 6: Real effective exchange rate indices in Asia

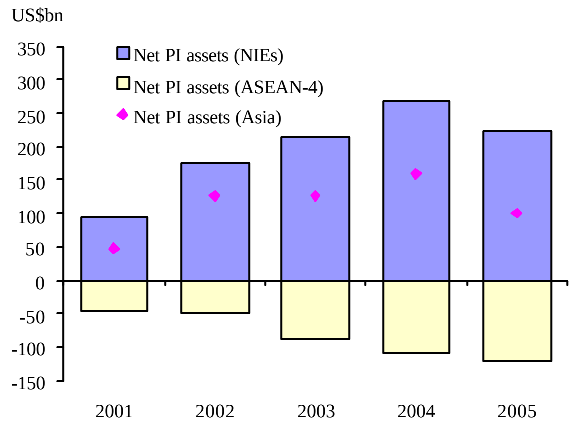


Sources: IMF, CEIC and staff estimates.

b. Asia has turned into a net creditor in outward portfolio investment (PI)

Improvement in the external payment position has turned Asia from a net debtor to a net creditor in outward portfolio investment (PI). Prior to the Asian financial crisis, strong portfolio inflows not only drove up asset prices sharply in the region, but also increased corporate liabilities to foreign investors. Since most of these inflows were short-term in nature, Asian economies became vulnerable to a sudden stop or reversal of capital flows, which happened during the financial crisis in 1997-98. The fall in asset prices and surge in bond yields not only increased corporate borrowing costs, but also caused significant damage to their balance sheets.

Chart 7: Outward net PI assets in Asia



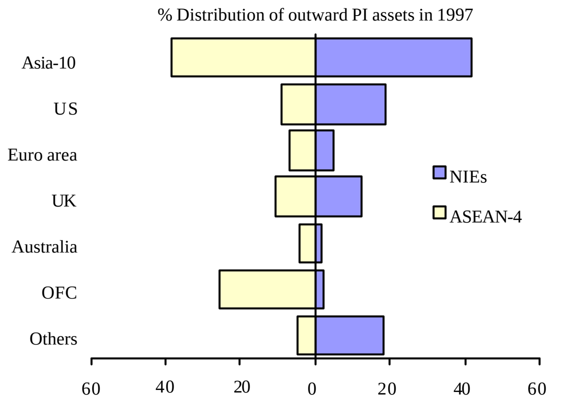
Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

After years of accumulation in current account surplus, Asia's outward portfolio investment has expanded steadily since the early 2000s. Asia's (excluding Japan and China) outward PI position more than doubled from US$320 billion in 2001 to US$690 billion, outpacing the growth of the inward PI position. As a result, Asia's net PI assets built up from US$48 billion at the end of 2001 to US$101 billion at the end of 2005, thanks to the rapid accumulation of net PI assets by the NIEs, while the ASEAN economies remained a net debtor in outward PI position (Chart 7).

c. More diversified outward portfolio investment

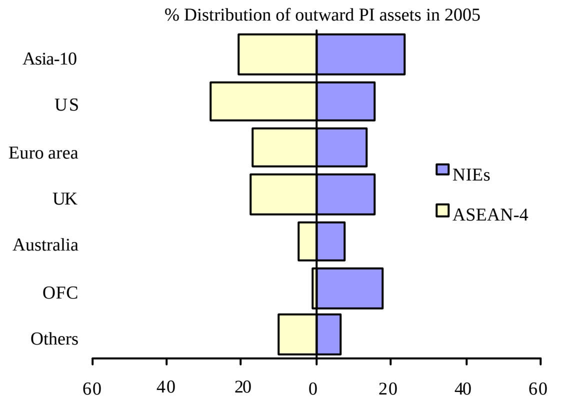
The more diversified outward PI assets of the Asian economies also suggest that the regional economies could be more resilient to external shocks. In 1997, equity and debt investment in Asia (including Japan and China), US, UK and the euro area constituted about 80% of the combined outward PI asset of the NIEs and ASEAN economies. In fact, about 40% of outward PI assets held by the NIEs and ASEAN economies were Asian equity and debt securities. This exposed Asian investors to high concentration risk in a single region, and incurred significant losses when asset prices in Asia fell sharply following the massive reversal of capital flows in 1997-98 (Chart 8).

Chart 8: Outward private sector PI assets held by NIEs and ASEAN-4 by destination, 1997



Asia-10 includes NIEs, ASEAN-4, Mainland China and Japan. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

Chart 9: Outward private sector PI assets held by NIEs and ASEAN-4 by destination, 2005

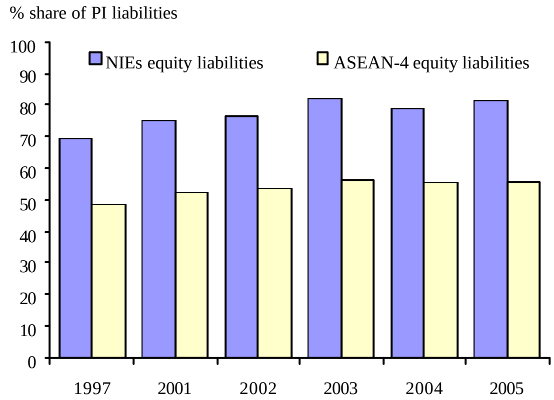


Asia-10 includes NIEs, ASEAN-4, Mainland China and Japan. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

In recent years, Asian investors have reduced the concentration risk in their outward PI assets. Their exposures to different regions and markets have been more evenly distributed. For example, outward PI assets in Asia-10 held by the NIEs and ASEAN economies have been reduced by half to around 20% in their respective portfolios. The rest of the NIEs' outward PI assets are evenly distributed among the US, UK, euro area and the offshore financial centres (OFCs) (Chart 9). The growing significance of outward PI assets in OFCs in part reflects increased equity investment in the shares of Chinese enterprises, with a number of these companies registering their business ownerships in Bermuda or Cayman Islands. For the ASEAN economies, the US has become the single most important market in terms of outward PI assets, accounting for nearly 30% of total, while the UK and the euro area have similar shares of around 18%. This mainly reflects increased debt securities investment by ASEAN investors in the matured markets.

d. Reliance on external debt financing has declined

Chart 10: Outward equity liabilities in the Asian economies

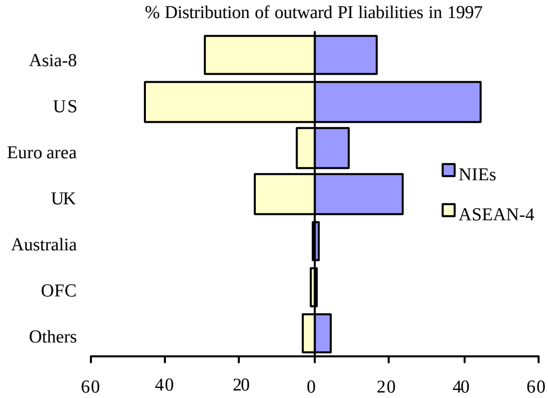


Due to data limitation, NIEs do not include Taiwan
Sources: IMF CPIS and staff estimates.

Despite the NIEs collectively being a net creditor in terms of portfolio investment position, net capital inflows have been positive over the past few years and the ASEAN economies have remained net debtors. Thus, there remains a risk of capital outflows from the region if conditions in the global financial markets deteriorate further. Nevertheless, reducing reliance of the Asian economies on external debt financing over the past years, with a significant portion of intra-regional debt holdings might increase the resilience of the region to the volatility of capital flows. Reduced reliance of the region on external debt financing could lower the risk of being unable to meet its obligations when economic or financial conditions turn sour. In terms of inward PI position, the share of equity liabilities picked up steadily from 63% in 1997 to 75% in 2005, indicating a declining share of debt liabilities. (Chart 10) While both the NIEs and the ASEAN economies have become less reliant on external debt financing, most of the increase in equity liabilities has been contributed by the NIEs.

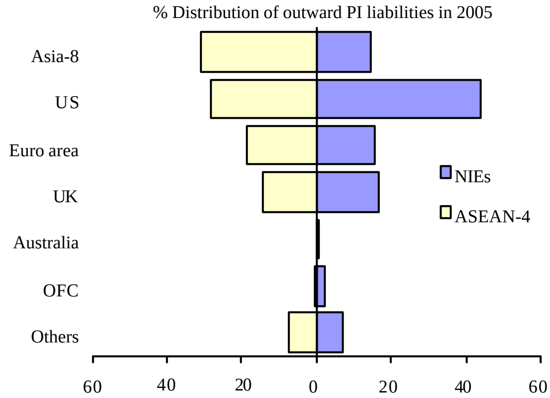
The source of PI liabilities has also become more diversified. While the US has remained the largest foreign PI investor in Asia, its significance in the ASEAN economies has diminished, with its share of PI declining from 45% in 1997 to 28% in 2005 (Charts 11 and 12). This has been accompanied by rapidly growing equity and debt investment from the euro area in recent years. During 1997-2005, the share of euro area PI position in Asia doubled from 8% to 16%. While Asia (excluding China and Taiwan) still lags behind the US and Europe (euro area and UK) in terms of PI position in the NIEs, it has become the largest PI creditor in the ASEAN economies, as most of ASEAN's debt securities are held by Asian investors. The rise in intra-regional debt holdings is expected to reduce the external vulnerability of the Asian economies (Charts 13 and 14).

Chart 11: PI liabilities owed by NIEs and ASEAN-4 by destination, 1997



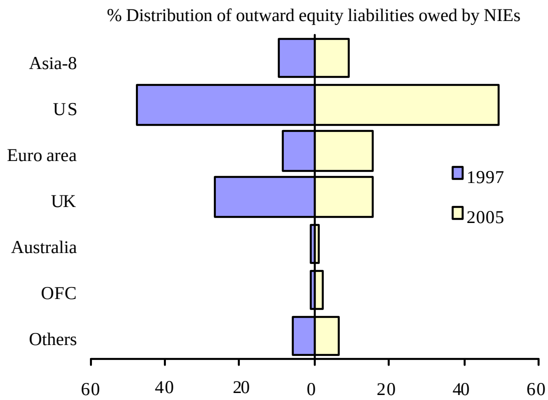
Asia-8 includes NIEs and ASEAN-4. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

Chart 12: PI liabilities owed by NIEs and ASEAN-4 by destination, 2005



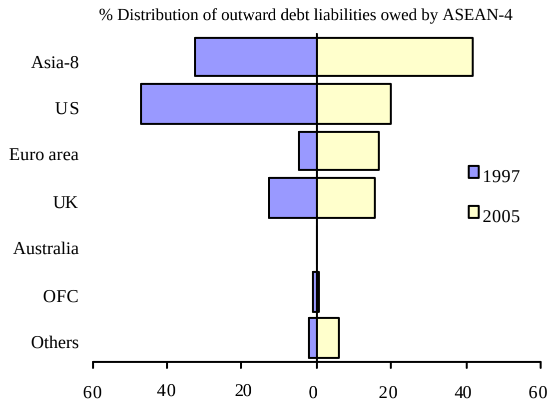
Asia-8 includes NIEs and ASEAN-4. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

Chart 13: Distribution of equity liabilities owed by NIEs



Asia-8 includes NIEs and ASEAN-4. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

Chart 14: Distribution of debt liabilities owed by ASEAN-4



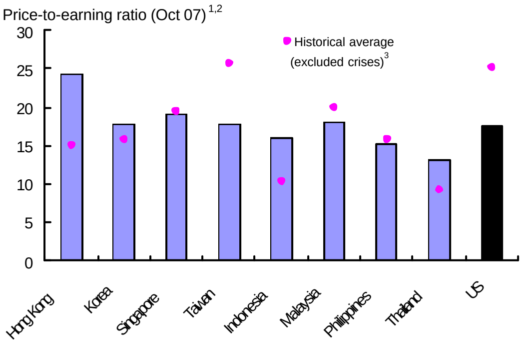
Asia-8 includes NIEs and ASEAN-4. OFC includes Bermuda, Cayman Islands and British Virgin Islands. Due to data limitation, NIEs do not include Taiwan.
Sources: IMF CPIS and staff estimates.

e. Have regional asset markets been overvalued?

While Asia has become less reliant on external debt financing, regional asset markets could still be subject to risks of abrupt movements should asset markets be overvalued and cause a significant re-pricing of risks. The sudden collapse of confidence on the eve of the Asian financial crisis showed that the values of equity could evaporate abruptly, especially when they were overvalued. In hindsight, the price-to-earnings ratios of the Asian stock markets were abnormally high during the episodes of the Asian financial crisis and tech bubbles, signalling equity market overvaluation before the bust. At current levels, the price-to-earnings ratios of most Asian markets have already exceeded or are close to their historical averages. (Chart 15)

While still comparable to that of the US, recent <u>price-to-book ratios</u> have also exceeded their historical levels in most Asian economies, and some are even close to or have surpassed their valuation levels prior to the crisis in 1997, including Singapore, the Philippines and most notably Indonesia (Chart 16). While high price-to-book ratios could also be interpreted as a sign of expectations of high returns on equity, the exceptionally high recent levels have increased the risk of stock market bubbles.

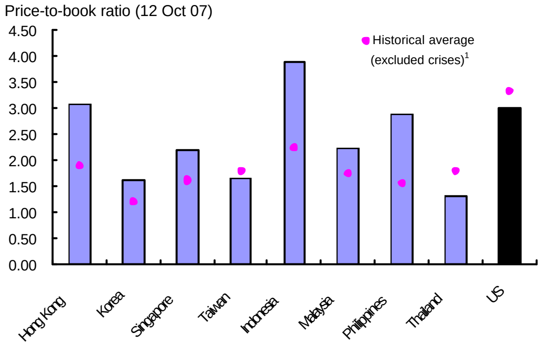
Chart 15: Price-to-earnings ratios



1. September 2007 data for the Philippines and Singapore
2. Due to data availability, figures for Indonesia, Singapore and Thailand are weighted average p/e ratios of all listed stocks, while others are weighted average p/e ratios of market index constituents.
3. Crisis periods are October 1996 to September 1997 and March 1999 to February 2000

Sources: CEIC and staff estimates

Chart 16: Price-to-book ratios



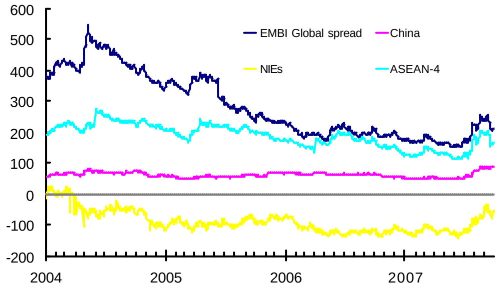
1. Crisis periods are October 1996 to September 1997 and March 1999 to February 2000

Sources: Bloomberg and staff estimates

In the debt markets, despite the recent market turbulence, there was little palpable evidence of wholesale re-pricing of Asia's <u>risk premiums</u> as sovereign and/or credit default swap spreads remained tight relative to historical average, and still much lower than the historical high in 1998 (Chart 17).

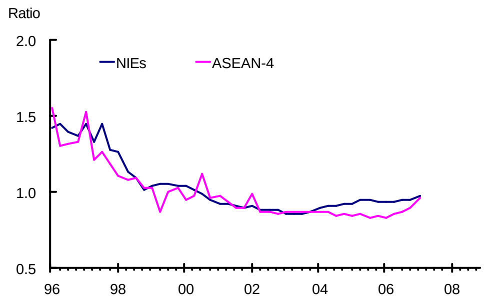
<u>Housing prices</u> in the region picked up again after the tech bubble in the late 1990s. The average rate of growth has been modest in most of the Asian economies except in Korea. Moreover, it was apparent that wages grew even faster than housing prices in the region which has resulted in a decline in the ratio of housing prices to income (Chart 18). The declining ratios indicate that housing price inflation in the region has been supported, to some extent, by improved fundamentals, suggesting that the housing sector might be less vulnerable to financial market shocks than in the late 1990s.

Chart 17: Sovereign yield spreads



For China and ASEAN-4, spreads are JP Morgan EMBI sovereign bond yield spreads; others are 5-year zero-coupon sovereign bond yield spreads between the dedicated country and the US.
Sources: Bloomberg and staff estimates

Chart 18: Ratios of property price to income[1]



1. Average ratios of the component economies

Sources: CEIC and staff estimates

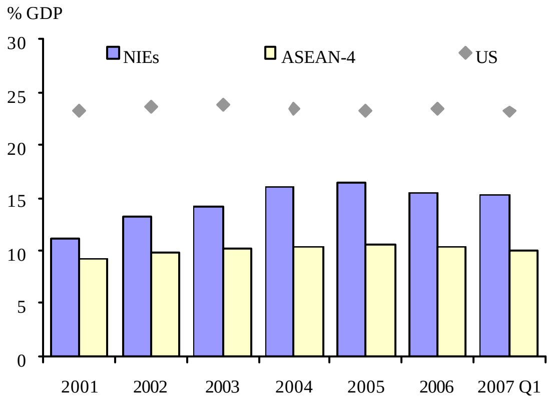
f. Better financial strength

While stronger external payment positions have reduced Asia's reliance on external financing, improved economic fundamentals have also strengthened the financial positions of households, banks and the non-bank corporate sector in most Asian economies, which increase the resilience of the region to external shocks.

The household sector

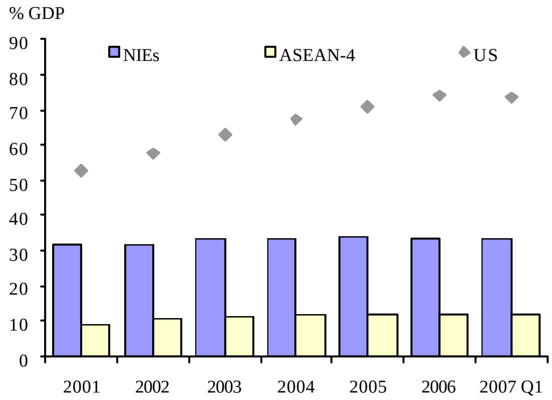
Household indebtedness remained healthy in most Asian economies, with the ratio of non-mortgage household debt to GDP staying well below 20%, underpinned by strong income growth over the past years (Charts 19). Reflecting different stages of development in home financing in the NIEs and the ASEAN economies, household mortgage loans to GDP ratio has been generally higher in the former group than the latter given their higher market value of residential property (Chart 20). Combining mortgage and other consumer loans, household indebtedness to GDP ratio falls into the range of 40-50% in the NIEs, much higher than that in the ASEAN economies with the exception of Malaysia.

Chart 19: Household non-mortgage debt in the Asian economies



Sources: ADB and staff estimates.

Chart 20: Household mortgage debt in the Asian economies

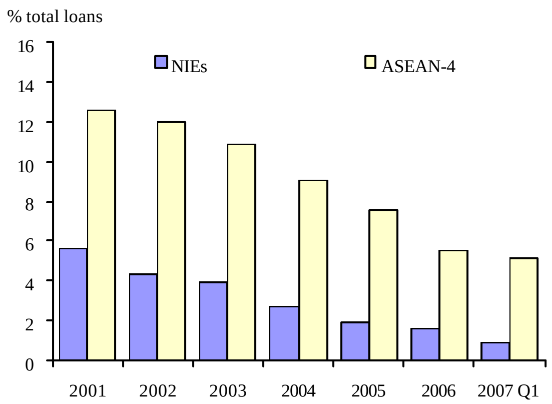


Sources: ADB and staff estimates.

The banking sector

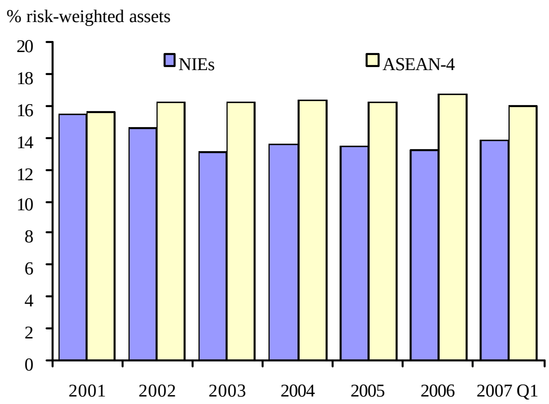
After years of loan restructuring and business consolidation, the balance sheets of Asian banks have strengthened in recent years. The non-performing loans ratio has declined from the double-digit level in 1998-99 to the single digit level in 2005-06 (Chart 21). The recapitalisation of bank assets and implementation of more stringent risk-management systems have also raised the banking sector capital adequacy ratio (CAR) to the double-digit level (based on Basel I), staying above the international standard of 8% (Chart 22). Bank profitability continued to improve in Asia, underpinned by fast-growing non-interest income from fund management business and investment activities. However, this also increased the risk exposures of banks to market risk, as securities investment has taken up larger share in bank assets particularly for Indonesia and the Philippines (Charts 23 and 24).

Chart 21: Non-performing loans in the Asian economies



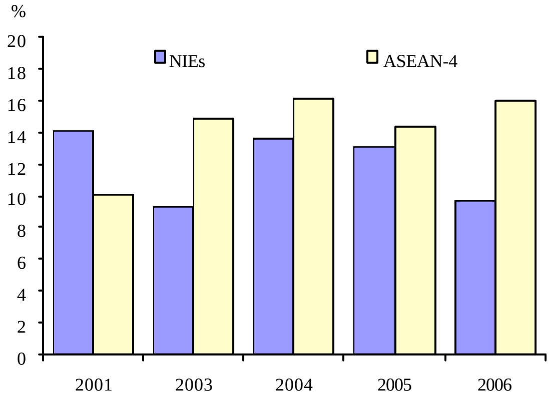
Sources: ADB and staff estimates.

Chart 22: Capital adequacy ratio in the Asian economies



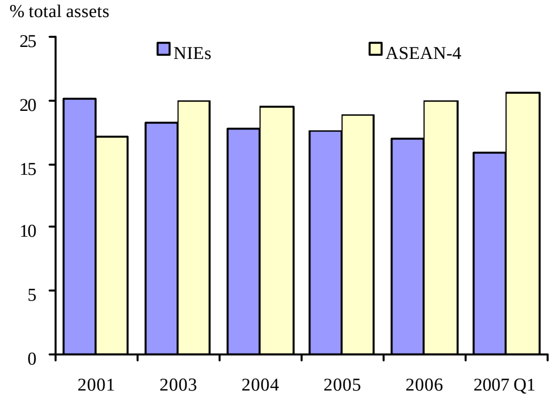
Sources: ADB, CEIC and staff estimates.

Chart 23: Return on equity (ROE) of banks in the Asian economies



Sources: ADB and staff estimates.

Chart 24: Securities investment to total bank assets in the Asian economies

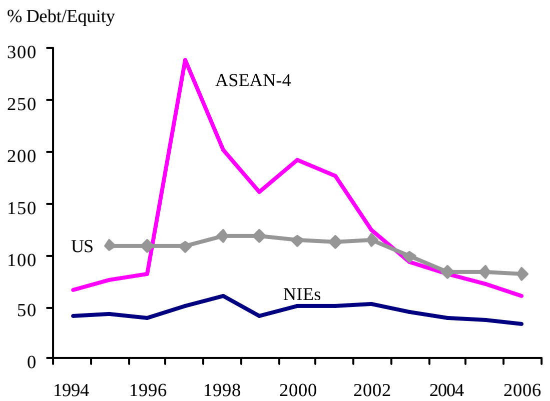


Sources: ADB, CEIC and staff estimates.

The non-bank corporate sector

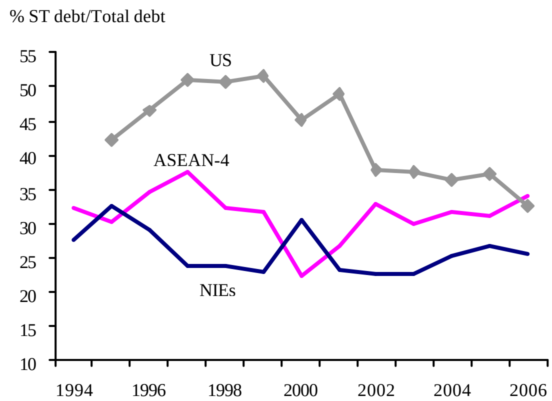
The financial position of the non-bank corporate sector has become stronger in Asia, underpinned by growing profitability and net worth of major listed companies in the region. Rising business earnings have reduced the leverage of major listed companies in Asia, with their debt-to-equity ratios falling below the levels seen prior to the Asian financial crisis (Charts 25). To improve capital structure and reduce funding costs, more corporate owners use internal reserves to finance their business expansion, or raise more long-term instead of short-tem debt for financing. Compared with the US, the share of short-term debt in total debt in most Asian economies was much lower (Chart 26).

Chart 25: Debt to equity ratio of major listed companies in the Asian economies



Sources: Bloomberg and staff estimates.

Chart 26: Short-term to total debt ratio of major listed companies in the Asian economies



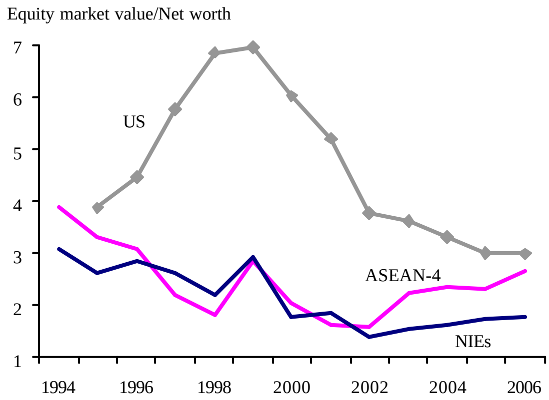
Sources: Bloomberg and staff estimates.

Declining leverage and growing earnings have increased the net worth of the listed companies in recent years, supporting strong growth of their equity prices (Chart 27).[3] The increased net worth of the listed companies in recent years has reduced financial stress in the corporate sector. At the same time, measures based on

[3] Net worth refers to total assets net of total liabilities at book value.

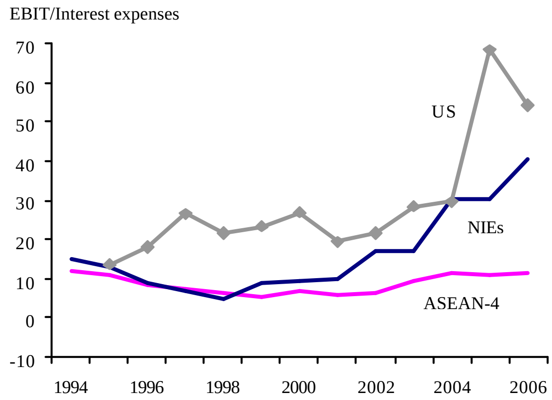
the interest coverage ratios[4], which indicate the risk involved in the ability to pay interest when business activity falls, suggest that liquidity conditions have improved in Asia, particularly in the NIEs (Chart 28).

Chart 27: Equity market value to net worth of major listed companies in the Asian economies



Sources: Bloomberg and staff estimates.

Chart 28: Interest coverage ratios of major listed companies in the Asian economies



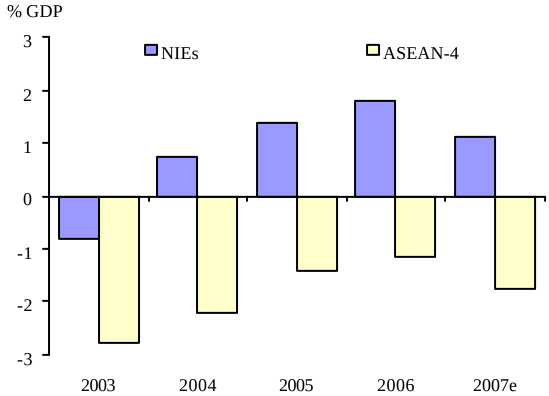
Sources: Bloomberg and staff estimates.

<u>The public sector</u>

The financial strength of the public sector has also improved. Reflecting strong economic growth and the government efforts to restrain public spending, the fiscal position has improved notably in most Asian economies (Chart 29). As a result, governments' dependency on external financing has declined, with the external public debt to GDP ratio falling below the levels in the late 1990s (Chart 30). Stronger external payment positions also lead to a rapid accumulation of foreign reserves in Asia, although this has increased the appreciation pressure on Asian currencies at the same time.

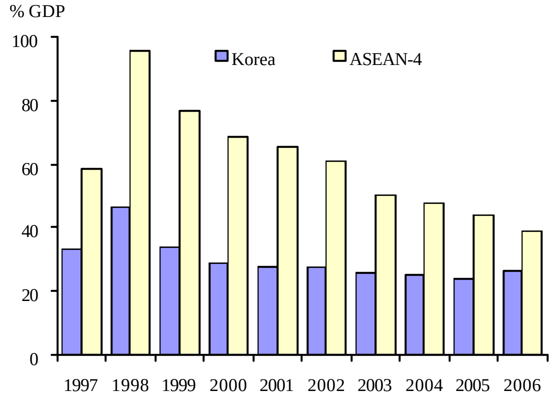
[4] The interest coverage ratio is computed as earnings (before interest and taxes) to interest payments.

Chart 29: Fiscal positions in the Asian economies



Sources: ADB, CEIC and staff estimates.

Chart 30: External public debt to GDP ratio in the Asian economies[1]



1. Data before 2003 refer to total external debt as a % of GDP. External public debt data of Singapore and Taiwan are not available. There is no external public debt in Hong Kong.

Sources: ADB, national sources and staff estimates.

IV. Concluding remarks

Our analysis on the capital flow structure and balance sheet strength of various economic sectors suggests that the Asian economies have now become much stronger in weathering possible external shocks. With regard to capital flows structure, with major economies in Asia turning into a net creditor in terms of portfolio investment and becoming more diversified in outward portfolio investment, the potential impact of capital outflows on financial markets may be reduced. Declining reliance of the Asian economies on external debt financing might also increase the resilience of the region to the volatility of capital flows.

The balance sheets of the various economic sectors have also made impressive improvements. Current household leverage is at a reasonable level while the corporate sector's growing earnings and reduced leveraging have increased its net worth. Banks' balance sheet has also improved with better asset quality and capitalisation. At the same time, improved fiscal conditions and decreasing reliance on external debt financing have strengthened the public sector's balance sheet.

While all these improvements point to increased resilience of the region to possible external shocks, valuation of asset markets suggests that although there are no clear signs of an overvaluation in the debt and housing markets, the recent rally in the equity market warrants increasing attention. Equity market valuation based on both the recent price-to-earnings ratios and price-to-book ratios in most Asian economies is already higher than historical levels, with some even surpassing the level seen prior to the 1997 crisis. With the uncertain global environment, downside risks have increased and we may see a sustained period of increased financial market volatility. This will require closer monitoring of fund flows by central banks.